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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/919,769	07/31/2001	Stephen E.M. Billester	29094/12:2	4011

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EXAMINER

CHANG, JON CARLTON

ART UNIT	PAPER NUMBER
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2623

DATE MAILED: 06/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/919,769	Applicant(s) BILLESTER, STEPHEN E.M.	
	Examiner Jon Chang	Art Unit 2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 November 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Applicant's Amendment and Arguments

1. The amendment filed, November 1, 2004, has been entered and made of record. Claim 1 has been amended. Claims 1-6 are pending.

In response to the amendment to the specification, the objection to the disclosure is withdrawn.

In response to the submitted drawings, the objection to the drawings is withdrawn.

Applicant's arguments on pages 6-7 have been fully considered and are persuasive, in part. Applicant presents two main arguments. The first, presented on page 6, next to last paragraph, is that Mullan does not teach a confidence indication based on successful recognition of (of the corresponding candidate character). The Examiner agrees with this argument. The second argument is presented on page 7, in the third paragraph. Although Applicant does not address the exact language of amended claim 1, the argument is directed toward the step, "for each selected character type, creating a candidate string by concatenating a candidate character with a most favorable corresponding confidence indication of the selected character type from each result set." The Examiner agrees that Mullan does not disclose or suggest this feature, as Mullan's system appears to deal with confidence indications with respect to the different character types (e.g., column 12, lines 42-50: if the numeric joint conditional probability is greater than the product of either the alphabetic conditional probabilities, the numeric character would be output), rather than of a selected character type. The Examiner does not agree that it "teaches away" from this feature. The fact that a

reference does not disclose or suggest something, does not imply that it teaches away from that something.

The amendment has necessitated a new ground of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of U.S. Patent 3,988,715 to Mullan et al. (hereinafter "Mullan") and Japanese Patent Publication 2-58187 to Yamaguchi. (The citations to Yamaguchi below are made to the English translation of the publication.).

Regarding claim 1, Mullan discloses a character recognition method for accurately constructing a result string the method comprising the steps of:

generating a digital representation of an input string including characters (column 3, lines 48-49; column 9, lines 37-41; column 9, lines 52-54);

generating a result set for each character in the input string, each result set including a plurality of candidate characters and a plurality of associated confidence indications (column 11, lines 52-62; column 12, lines 22-55);

selecting a plurality of character types (column 3, lines 35-39; column 3, lines 50-51, 55-56 and 59-60; the "genres" refer to character types);

for each selected character type, creating a candidate string by concatenating a candidate character of the selected character type from each result set (column 3, lines 49-65);

for each created candidate string, combining the associated confidence indication for each concatenated candidate character to form a corresponding combined confidence indication (column 4, lines 29-35; the "joint conditional probabilities"); and

selecting as the result string the created candidate string with a most favorable corresponding combined confidence indication (column 4, lines 35-41).

Mullan does not disclose that the associated confidence indications is indicative of successful recognition of the corresponding candidate character (Mullan's associated confidence indication is indicative of the confidence that a particular candidate character is of a certain type). Mullan also does not disclose that the candidate character is one with a most favorable corresponding confidence indication of the selected character type. However, these features are well known in the art as evidenced by Yamaguchi. In an analogous environment, Yamaguchi teaches associated confidence indications is indicative of successful recognition of the corresponding candidate character (page 8, in the paragraph bridging pages 7 and 8, the last four lines, wherein the degree of reliability is the confidence; page 9, next to last paragraph, last three lines, wherein the resemblance is a confidence value), and that a selected candidate character is one with a most favorable corresponding confidence indication of the selected character type

(page 3, second paragraph, last four lines; page 3, third paragraph, second and third lines; page 6, third and fourth lines from the bottom of the page; page 8, second full paragraph, last four lines). Yamaguchi's method provides the advantage of improving performance of correction in a character recognition device (page 17, lines 6-7). Therefore, it would have been obvious to one of ordinary skill in the art to modify Mullan's method according to the teachings of Yamaguchi as described above.

As to claim 2, Mullan discloses the method of claim 1, wherein:

each confidence indication is numeric (a conditional probability, e.g., column 4, lines 12-13, is inherently numeric); and

the most favorable corresponding combined confidence indication has a greatest combined numeric value (column 4, line 38-41; i.e., the largest product).

With regard to claim 3, Mullan does not disclose that the combined numeric value is a weighted average. However, a number of different combined numeric values used for representing confidence indications are well known. Among these, the weighted average is well known (Official Notice). Use of a weighted average is seen as a decision based upon designer preference. The weighted average provides an easily computed value, as compared with the conditional probabilities of Mullan. This would have motivated one of ordinary skill in the art to utilize it.

With regard to claim 4, Mullan discloses the method of claim 1 further comprising the step of: if there is no candidate character in a result set for a character type, extracting a substitute candidate character of a different character type and ascribing a

substitute associated confidence indication for the substitute candidate character (column 5, lines 5-21).

Regarding claim 5, Mullan discloses the method of claim 1 wherein at least one of the selected character types includes a plurality of subset character types (column 7, lines 12-15; e.g., the Japanese character type includes the subset character types Katakana and Romnji [sic]).

Regarding claim 6, Mullan discloses the method of claim 5 wherein the at least one of the selected character types further includes a pattern for positioning the candidate characters of the plurality of subset character types in the corresponding created candidate string (e.g., Fig.3, elements 41, 42 or 43; the pattern is linear or sequential).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any


extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jon Chang whose telephone number is (571) 272-7417. The examiner can normally be reached on M-F 8:00 a.m.-6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (571)272-7414. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jon Chang
Primary Examiner
Art Unit 2623

Jon Chang
May 29, 2005